ternal objects by the same principle on which the mariner steers by his compass. Thus the two cranial eyes are analogous, in principle and situation, to two magnetic compasses placed upon a ship's deck; while the third, or cerebral eye, corresponds to another compass placed in the cabin below; and the mind, situated like the captain-mariner in his cabin, knows, from consulting the cerebral eye, on what point of direction the body is steering; although the mind no more perceives either any external object, nor yet any image in the cranial eye, than the mariner perceives (even in the vulgar sense of the word perceiving) the far-off land, or haven, towards which he is surely making his way."

A paper was read, "On the Thermostat or Heat Governor, a self-acting physical Apparatus for regulating Temperature;" constructed by Andrew Ure, M.D., F.R.S.

The principle of the instrument here described is the unequal expansion of different metals by heat. A bar of zinc, alloyed with four or five per cent. of copper, and one of tin, about an inch in breadth, one quarter of an inch thick, and two feet long, is firmly and closely riveted along its face to the face of a similar bar of steel of about one third in thickness. The product of the rigidity and strength should be nearly the same, so that the texture of each may pretty equally resist the strains of flexure. Twelve such compound bars are united in pairs by a hinge joint at each of their ends; having the zinc or alloy bars fronting one another. At ordinary temperatures these bars will be parallel, and nearly in contact; but when heated, they bend outwards, receding from each other at their middle parts, like two bows tied together at their ends. When a more considerable expansion is wanted, a series of such bars is laid one over the other. The movement thus resulting is applied by the author in various ways to regulate the opening of dampers, letting in either cold air or cold water, or closing the draught of a fireplace, as the case may be. He proposes its employment to regulate the safety valves of steam boilers, as working with more certainty than the common expedients.

A paper was read, "On the Determination of the Thickness of solid Substances, not otherwise measurable, by Magnetic Deviations." By the Rev. William Scoresby, F.R.S. Lond. & Edin. Corresponding Member of the Royal Academy of Sciences of Paris, &c.

In the first part of this paper, the author states the results of a series of experiments undertaken by him with the view of ascertaining whether all bodies are equally and uniformly permeable to the magnetic influence. Out of a great number of substances not ferruginous, but of various qualities, thickness, and solidity, which were subjected to trial, no instance occurred of their offering any perceptible obstruction to the action of a magnet on a compass, when interposed between them. No interruption to this action occurred even when the intervening bodies were iron ores, of which several